

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1-18. (Cancelled)

19. (Previously Presented) An isolated nucleic acid encoding a microtubule motor protein, wherein the motor protein has: (i) microtubule stimulated ATPase activity; and (ii) an amino acid sequence that has greater than 90% sequence identity to SEQ ID NO:2 or SEQ ID NO:4 as measured using a sequence comparison algorithm.

20. (Previously Presented) The isolated nucleic acid of claim 19, wherein the nucleic acid encodes a motor protein has greater than 95% sequence identity to SEQ ID NO:2 or SEQ ID NO:4.

21. (Previously Presented) The isolated nucleic acid of claim 20, wherein the nucleic acid encodes a motor protein that has greater than 98% sequence identity to SEQ ID NO:2 or SEQ ID NO:4.

22. (Previously Presented) The isolated nucleic acid of claim 19, wherein the protein specifically binds to polyclonal antibodies raised against a protein comprising SEQ ID NO:2 or SEQ ID NO:4.

23. (Previously Presented) The isolated nucleic acid of claim 19, wherein the nucleic acid encodes a protein having the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4.

24. (Previously Presented) The isolated nucleic acid of claim 19, wherein the nucleic acid has the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3.

25. (Previously Presented) The isolated nucleic acid of claim 19, wherein the nucleic acid hybridizes selectively to SEQ ID NO:1 or SEQ ID NO:3.

26. (Previously Presented) An expression vector comprising an isolated nucleic acid of claim 19.

27. (Previously Presented) A host cell comprising the vector of claim 26.